

Sail Army

Story by Steve Harding

FEW people realize the Army has an extensive, worldwide fleet of watercraft. Fewer still realize that among those vessels is a fast and highly advanced experimental ship that has radically changed the nature of military sea transportation.

Designated HSV-X1 and named *Joint Venture*, the futuristic-looking catamaran is based on a successful car ferry design by Australia's Incat shipbuilders. Constructed in Hobart, Tasmania, the 313-foot aluminum vessel was modified to carry some 800 tons of military vehicles and equipment, as well as about 360 people.

The ship was leased jointly by the Army and Navy in the fall of 2001, and since then it has been under evaluation in real-world operations from Europe to Southwest Asia to the coastal waters of the United States. While the Navy tested *Joint Venture's* capabilities in countermine warfare, special-operations support and anti-submarine operations, since April of 2002 the Army has been evaluating it as a high-speed logistics-support platform.

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FASTER



Driven by its powerful water jets, the experimental logistics-support vessel *Joint Venture* moves out at nearly 40 knots during recent operations off the coast of California.

U.S. Navy photo



Sail Army... FASTER

Fast and Shallow

And “high-speed” is a new and increasingly important concept in terms of Army watercraft, said MG Robert T. Dail, the Army’s chief of transportation.

“The Army is directed by the Department of Defense to operate watercraft in coastal waters in support of land forces, and we have done just that in each of the nation’s conflicts over the past 60 years,” Dail said. “Yet the big ships we own today — the logistics-support vessels and larger utility landing craft — and the Navy’s transports were designed to carry large amounts of cargo at relatively slow speeds. In today’s world, we need men and materiel to reach critical areas far faster.”

That’s where the HSV-X1’s

advanced water-jet propulsion and wave-piercing catamaran hull come in, Dail said.

“The HSV-X1 can do better than 40 knots, or about 46 mph, some four times faster than the top speed of the Army’s current larger vessels,” he said. “That means that we can get vital equipment and personnel to key locations much more quickly. And because ships like *Joint Venture* can safely operate in much shallower waters than the bigger, conventional vessels can, it means we can get into more ports.”

The ability to use small, shallower ports is especially important in war-time, Dail said.

“We normally deploy the bulk of our heavy forces by sea, using ocean-going vessels to land the materiel at large, improved ports,” he said. “We

then establish a lodgment where we can get our people linked up with their equipment before moving them forward.”

The problem, Dail said, is that the enemy can destroy or block the large ports, denying their use to the deploying forces. And even if the ports remain open, creating the lodgment and building up forces can take time — some four months, for example, during the initial stages of the Gulf War.

“And when we’re in these large ports doing all this consolidating, we’re very vulnerable to threats such as missiles or chemical weapons,” he said.

That, Dail said, is why the Army is evaluating the HSV-X1.

“We want to be able to quickly bring the people and equipment into



***Joint Venture*’s aft vehicle ramp allows the rapid loading and unloading of trucks, Humvees and, as during last summer’s Exercise Millennium Challenge ’02, Stryker infantry carriers. The ramp is folded upward and inboard before the vessel gets underway.**



Packed with sophisticated control, navigation and communication systems, HSV-X1's bridge looks more like that of a starship than an oceangoing vessel. Everything — including maneuvering — is electronically controlled.

the theater, and then combine and integrate them in an area that is not vulnerable to enemy attack," he said. "We then want to deploy our forces into an area of our choosing. And with a ship that only draws 15 feet of water, we'll have a lot more choices."

The concept, Dail said, is that the Army could position vessels like *Joint Venture* in key locations worldwide. The vessels' high speed would allow the Army to then mass several ships at a given location to support an operation and link up with soldiers flying in from the United States.

"This is a new way of looking at

how we deploy our soldiers, and a new way of providing a capability that current Army watercraft aren't able to provide," Dail said. "And our continuing evaluation of the HSV-X1 is teaching us new things, and raising new possibilities, every day."

A Challenging Evaluation

The Army's evaluation of *Joint Venture* has been both extensive and wide-ranging.

After taking control of the vessel from the Navy at Rota, Spain, the ship's Army crew took it across the

Mediterranean, through the Suez Canal and into the Persian Gulf. *Joint Venture* operated there for two months, moving all types of cargo in support of Operation Enduring Freedom. In its final mission in that region, the ship left the Gulf through the Strait of Hormuz, delivered cargo in the United Arab Emirates, then sailed for the U.S. West Coast via Kwajalein Atoll and Hawaii.

This past summer the vessel demonstrated its lift capability more publicly by carrying 14 Stryker infantry carriers, support vehicles and some 20 soldiers of the Stryker

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Because *Joint Venture* was built as a vehicle and passenger ferry intended for short voyages, her food-preparation facilities (above) and crew accommodations (left) are limited. Larger and more suitable facilities will be standard on later vessels.



The Soldiers' View

Drawn mainly from the 7th Transportation Group at Fort Eustis, Va., the 24 Army mariners assigned to *Joint Venture*'s crew have extensive experience with the landing craft, tugboats and logistics-support

the ship's executive officer. "Everything is electronically controlled, including the maneuvering. An engineering officer even stands watch on the bridge and can monitor the engine-room systems from there."

All the technology is a tremendous leap forward for Army mariners, Brashears said, but it takes a while to learn the ship's systems and operate them in the most efficient way.

"This is an advanced ship with many sophisticated systems, so attention to detail in terms of operating and maintaining the vessel is that much more important," added SSG Jill Paschal, a watercraft engineer who was aboard *Joint Venture* as part of a team developing a training handbook for the vessel.

Training Army mariners to operate and maintain vessels like *Joint Venture* is bound to bring about changes in the 88K and 88L — watercraft operator and engineer — MOSs, Paschal said.

Brigade Combat Team from the Port of Hueneme, Calif., back to Fort Lewis, Wash., following the conclusion of the Army Transformation Experiment 2002 at the National Training Center at Fort Irwin, Calif.

Each of *Joint Venture*'s voyages has given Army evaluators a chance to examine the ship's performance and capabilities under a range of conditions, Dail said. And, just as important, it's given Army mariners a chance to get to know the type of vessel that could well become the mainstay of the future watercraft fleet.

vessels that make up the bulk of the Army's fleet. Yet most say that sailing aboard the innovative catamaran has been a new and eye-opening experience.

"This is like no vessel I've ever served on," said watercraft engineer SSG Calvin Williams. "I've been aboard for 10 months, and I still discover something new about her every day."

"This vessel is really packed with advanced technology in terms of operation, navigation and communication," agreed CW3 Rebecca Brashears,



"We will have to step up the level of training, in terms of providing mission-ready mariners," she said. "That's why U.S. Army Training and Doctrine Command representatives are here determining what type of training, and how much, it will take to reach that goal."

More importantly, Dail said, the Army has used the engineering and performance data gathered during the lease of *Joint Venture* to fine-tune the requirements for the service's second high-speed ship, the prototype theater-support vessel *Spearhead*.

The Shape of Things to Come

Designated TSV-1X, *Spearhead* is similar in design and layout to *Joint Venture*, but is considerably larger and

incorporates some 96 of 104 lessons learned from the first vessel, said COL Genaro J. Dellarocco, project manager for force projection at the Program Executive Office for Combat Support and Combat Service Support in Warren, Mich.

"*Spearhead* is an evolutionary step towards the ultimate, objective theater-support vessel," he said. "Based on what we've learned from *Joint Venture*, we've altered the design of the stern loading ramp, expanded the crew quarters and improved the galley, and made quite a few other changes that make *Spearhead* much more representative of what we're looking for."

The vessel was delivered to its Army crew in mid November in Tasmania, and the soldiers immediately began training, conducting sea

trials and outfitting *Spearhead* for logistics operations worldwide. And, just as with the first vessel, lessons learned during the operation of the second will be applied to the design for the objective TSV.

"Our ultimate goal is to get to an objective vessel by the middle of this decade, so that we can start replacing some of our outmoded watercraft fleet," Dellarocco said. "We believe our continuing evaluation of both *Joint Venture* and *Spearhead* will help us achieve that goal."

For its part, *Joint Venture* will continue to soldier on. Currently back in Navy hands, the ship will return to Army control from mid-March through May for testing with the Stryker Brigade Combat Team and the Hawaii-based 25th Infantry Division. □



Incat Australia

Accepted by the Army in November, TSV-1X *Spearhead* is larger and more capable than *Joint Venture* and incorporates many of the lessons learned by Army mariners while operating the earlier vessel.